

IEEE 100
The Authoritative Dictionary of
IEEE Standards Terms

Seventh Edition



Published by
Standards Information Network
IEEE Press

Trademarks and disclaimers

IEEE believes the information in this publication is accurate as of its publication date; such information is subject to change without notice. IEEE is not responsible for any inadvertent errors.

Other tradenames and trademarks in this document are those of their respective owners.

*The Institute of Electrical and Electronics Engineering, Inc.
3 Park Avenue, New York, NY, 10016-5997, USA*

Copyright © 2000 by the Institute of Electrical and Electronics Engineers, Inc. All rights reserved. Published December 2000. Printed in the United States of America.

No part of this publication may be reproduced in any form, in an electronic retrieval system or otherwise, without the prior written permission of the publisher.

To order IEEE Press publications, call 1-800-678-IEEE.

Print: ISBN 0-7381-2601-2

SP1122

See other standards and standards-related product listings at: <http://standards.ieee.org/>

The publisher believes that the information and guidance given in this work serve as an enhancement to users, all parties must rely upon their own skill and judgement when making use of it. The publisher does not assume any liability to anyone for any loss or damage caused by any error or omission in the work, whether such error or omission is the result of negligence or any other cause. Any and all such liability is disclaimed.

This work is published with the understanding that the IEEE is supplying information through this publication, not attempting to render engineering or other professional services. If such services are required, the assistance of an appropriate professional should be sought. The IEEE is not responsible for the statements and opinions advanced in this publication.

ries combination does not exceed the interrupting rating of the main overcurrent protective device.

(IA/PSP) 1015-1997

series rectifier circuit A rectifier circuit in which two or more simple rectifier circuits are connected in such a way that their direct voltages add and their commutations coincide. *See also:* rectifier circuit element; rectification. (IA) [12]

series regulator (power supplies) A device placed in series with a source of power that is capable of controlling the voltage or current output by automatically varying its series resistance. (AES) [41]

series relay *See:* relay; current relay.

series resistor (electric instruments) A resistor that forms an essential part of the voltage circuit of an instrument and generally is used to adapt the instrument to operate on some designated voltage or voltages. The series resistor may be internal or external to the instrument. *Note:* Inductors, capacitors, or combinations thereof are also used for this purpose. *See also:* auxiliary device to an instrument. (EEC/AII) [102]

series snubber (ac adjustable-speed drives) Circuit elements, usually including an inductor, connected in series with a switching device to limit the rate of rise or fall of current through the device when switching on or off, respectively. *See also:* snubber. (IA/ID/SPC) 995-1987w, 936-1987w

series street-lighting transformer (power and distribution transformers) A series transformer that receives energy from a current-regulating series circuit and that transforms the energy to another winding at the same or different current from that in the primary. *See also:* specialty transformer. (PE/TR) C57.12.80-1978r, [57]

series system The arrangement in a multielectrode electrolytic cell whereby in each cell an anode connected to the positive bus bar is placed at one end and a cathode connected to the negative bus bar is placed at the other end, with the intervening unconnected electrodes acting as bipolar electrodes. *See also:* electrorefining. (EEC/PE) [119]

series tee junction *See:* E-plane tee junction.

series thyristor converter A thyristor converter in which two or more simple converters are connected in such a way that their direct voltages add and their commutations coincide. (IA/IPC) 444-1973w

series transformer (1) (power and distribution transformers) A transformer with a "series" winding and an "exciting" winding, in which the "series" winding is placed in a series relationship in a circuit to change voltage or phase, or both, in that circuit as a result of input received from the "exciting" winding. *Note:* Applications of series transformers include:

- 1) Use in a transformer such as a load-tap-changing or regulating transformer to change the voltage or current duty of the load-tap-changing mechanism.
- 2) Inclusion in a circuit for power factor correction to indirectly insert series capacitance in a circuit by connecting capacitors to the exciting winding.

(PE/TR) C57.12.80-1978r

(2) A transformer in which the primary winding is connected in series with a power-supply circuit, and that transfers energy to another circuit at the same or different current from that in the primary circuit. *See also:* transformer. (PE/TR) [57]

series transformer rating (power and distribution transformers) The lumen rating of the series lamp, or the wattage rating of the multiple lamps, that the transformer is designed to operate. (PE/TR) C57.12.80-1978r

series-trip recloser A recloser in which main-circuit current above a specified value, flowing through a solenoid or operating coil, provides the energy necessary to open the main contacts. (SWG/PE) C37.100-1992

series two-terminal pair networks Two-terminal pair networks are connected in series at the input or at the output terminals when their respective input or output terminals are in series. *See also:* network analysis. (BT) 153-1950w

series undercurrent tripping *See:* direct release; undercurrent release.

series unit (power and distribution transformers) The core and coil unit which has one winding connected in series in the line circuit. (PE/TR) C57.12.80-1978r

series weighting Response weighting by separating a finger into individual elements with capacitive coupling between them; the elements may be separated from the bus bar. (UFFC) 1037-1992w

series winding (1) (A) (autotransformer) (power and distribution transformers) That portion of the autotransformer winding which is not common to both the primary and the secondary circuits, but is connected in series between the input and output circuits. **(B) (power and distribution transformers)** The winding of the series unit which is connected in series in the line circuit. *Note:* If the main unit of a two-core transformer is an autotransformer, both units will have a series winding. In such cases, one is referred to as the series winding of the autotransformer and the other, the series winding of the series unit. (PE/TR) C57.12.80-1978

(2) That portion of the autotransformer winding that is not common to both the primary and secondary circuits, but is connected in series between the input and output circuits. (PE/TR) C57.15-1999

series-wound (rotating machinery) A qualifying term applied to a machine to denote that the excitation is supplied by a winding or windings connected in series with or carrying a current proportional to that in the armature winding. *See also:* asynchronous machine. (PE) [9]

series-wound motor (1) The conductors and equipment for delivering energy from the electricity supply system to the wiring system of the premises served. (NESC/NEC) [86]

(2) A dc motor in which the field circuit and armature circuit are connected in series. Speed is inversely proportional to the square root of load torque. Motor operates at a much higher speed at light load than at full load. (IA/MT) 45-1998

servant A device that is controlled by a commander. There are message-based and register-based servants. (C/MM) 1155-1992

server (1) (telecommunications switching systems) A system component that performs operations required for the processing of a call. *See also:* traffic usage count. (COM/TA) 973-1990w

(2) **(MULTIBUS II)** An agent that performs a service for clients. *See also:* client. (C/MM) 1296-1987s

(3) In a network, a device or computer system that is dedicated to providing specific facilities to other devices attached to the network. *Contrast:* client. *See also:* mail server; disk server; file server; terminal server; network server; database server; print server. (C) 610.7-1995

(4) The facility in the terminal or work station that provides input (keyboard, mouse) and output (screen graphics) services to the application. *Synonym:* X server. (C) 1295-1993w

(5) The software component on one device that provides services for use by clients on the same or another device. (C/MM) 1284.4-2000

(6) *See also:* batch server.

Server Object Any Object that executes one or more of its operations in response to a request from a Client object. (IM/ST) 1451.1-1999

Server Object Tag An attribute of a Client Port that identifies the Object Tag of the Server Object with which the Port communicates in client-server communications. (IM/ST) 1451.1-1999

Service An instance of a subclass of IEEE1451_Service. (IM/ST) 1451.1-1999

service (1) (electric systems) The conductors and equipment for delivering electric energy from the secondary distribution or street main, or other distribution feeder, or from the transformer, to the wiring system of the premises served. *Note:* For overhead circuits, it includes the conductors from the last line pole to the service switch or fuse. The portion of an